December 19, 2002

RE: Kimball Office Casegood Manufacturing - Salem 175-16272-00007

TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this approval is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for consideration at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

December 19, 2002

Mr. Keith Zenow, General Manager
Kimball Office Casegood Manufacturing - Salem
200 Kimball Blvd.
Salem, Indiana 47167

Re: 175-16272-00007
Minor Source Modification to:
Part 70 permit No.:T175-6062-00007

Dear Mr. Zenow:

Kimball Office Casegoods Manufacturing was issued a Part 70 operating permit T175-6062-00007 on June 18, 2002 for an office furniture manufacturing plant. An application to modify the source was received on October 28, 2002. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(5) One (1) Flat Line Finishing Process, constructed in 2003, having a maximum throughput capacity of 2.2 bookcases per hour, and consisting of the following surface coating booths:

(A) One (1) enclosed flat line automatic surface coating unit (identified as SB22) with emissions of particulate matter are controlled using dry filters, which exhaust to stack 22.

(B) Two (2) spray booths (identified as SB23 and SB24) with emissions of particulate matter controlled using dry filters. Spray booth SB23 exhausts at stacks 23A and 23B, while spray booth SB24 exhausts at stacks 24A and 24B.

(C) Two (2) down draft spray booths (identified as SB25 and SB26) with emissions of particulate matter are controlled using dry filters. Spray booth SB25 and SB26 exhaust at stacks 25 and 26, respectively.

Insignificant Activities:

(a) Four (4) electric ovens identified as units 5, 7, 8, and 9.

(b) One (1) natural gas-fired water heater, having a maximum heat input capacity of 2.4 MMBtu per hour.

(c) One (1) natural gas-fired air make-up unit, having a maximum heat input capacities of 2 MMBtu per hour.

(d) Two (2) natural gas-fired air make-up units, each having a maximum heat input capacity of 1 MMBtu per hour.

Note: These insignificant activities do not have applicable requirements and will not be listed in the Part 70 permit.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to

emit (PTE) of the proposed project, the change must be approved by the Office of Air Qualityt (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction when the minor source modification has been issued. Operating conditions shall be incorporated into the Part 70 operating permit as a minor permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Amanda Baynham, ERG,1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7910 to speak directly to Ms. Baynham. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
- Technical Support Document, Permit

ERG/AAB

cc: File - Washington County
Washington County Health Department
Air Compliance Section Inspector - Ray Schick
Compliance Data Section - Karen Nowak
Administrative and Development -Sara Cloe
Technical Support and Modeling - Michele Boner

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Kimball Office Casegoods Manufacturing- Salem
Hwy. 56 East
Salem, Indiana 47617

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T175-6062-00007	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: June 18, 2002 Expiration Date: June 18, 2007

First Minor Source Modification: 175-16272-00007	Affected Pages: 3, 5, 7, 8, 10
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: December 19, 2002

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) . The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary wood office manufacturing plant.

Responsible Official:	Mr. Keith Zenow
Source Address:	Highway 56 East, Salem, Indiana 47167
Mailing Address:	200 Kimball Boulevard, Salem, Indiana 47167
Phone Number:	(812) 634-3702
SIC Code:	2521
County Location:	Washington
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Twenty-six (26) surface coating operations consisting of the following:

(1) Eighteen (18) spray booths, constructed in 1986, with water pans for particulate control, identified as:

(A) #1 through #14, exhausting to stack vents 1A-D, 2A&B, 3A&B, 4A&B, 5A-C, 6A-C, 7A&B, 8A-C, 9A&B, 10A-C, 11A&B, 12A&B, 13A&B, and 14A&B;

(B) #15, exhausting to stack vents 15A-D; and

(C) #16 through #18, exhausting to stack vents 16A&B through 18A&B.

(2) One (1) down draft filter spray booth, identified as SB19, constructed in 1997, using HVLP spray guns and a down draft flash tunnel, equipped with dry filters and exhausting to stack SB19A.

(3) One (1) down draft booth, identified as SB20, constructed in 1998, using HVLP spray guns, emissions controlled by a water pan, exhausting to stack vents 20A&B.

(4) One (1) touch up/repair/special project spray booth, identified as SB21, constructed in 1999, using HVLP spray guns, equipped with dry filters and exhausting to two stacks, SB21A and SB21B.

(5) One (1) Flat Line Finishing Process, constructed in 2003, having a maximum throughput capacity of 2.2 bookcases per hour, and consisting of the following surface coating booths:

(A) One (1) enclosed flat line automatic surface coating unit (identified as SB22) with emissions of particulate matter are controlled using dry filters, which exhaust to stack 22.

(B) Two (2) spray booths (identified as SB23 and SB24) with emissions of particulate matter controlled using dry filters. Spray booth SB23 exhausts at stacks 23A and 23B, while spray booth SB24 exhausts at stacks 24A and 24B.

(C) Two (2) down draft spray booths (identified as SB25 and SB26) with emissions of particulate matter are controlled using dry filters. Spray booth SB25 and SB26 exhaust at stacks 25 and 26, respectively.

(b) Two (2) thirty-nine and one half (39.5) MMBtu CNB tri-fuel boilers, identified as Boiler 1 and 2, constructed in 1986, fired by coal and wood, with natural gas as backup fuel, using Breslove Regenerative Fly Ash Cyclonic Collectors for particulate control, identified as BRC1 and BRC2, each boiler exhausting to its own stack/vent.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Woodworking facilities equipped with a baghouse with an air flow rate no greater than 125,000 cubic feet of air per minute and a grain loading no greater than 0.003 grains per dry standard cubic feet of outlet air: Woodworking facilities with a Moldow MX baghouse system with four air exchange ports, a maximum capacity of 3.09 tons wood per hour, an aggregate air flow rate of 105,000 cfm and grain loading less than 0.0001 gr/dscf, exhausting through a closed loop system conveyed to a storage bin. [326 IAC 2-7-1(21)(G)(xxix)]

(b) Woodworking facilities equipped with a baghouse with an air flow rate no greater than 125,000 cubic feet of air per minute and a grain loading no greater than 0.003 grains per dry standard cubic feet of outlet air: Woodworking facilities with two (2) Torrit/Day baghouses, each with: a maximum capacity of 3.09 tons wood per hour, an air flow rate of 45,000 cfm, and grain loading less than 0.0001 gr/dscf, exhausting through a closed loop system conveyed to a storage bin. [326 IAC 2-7-1(21)(G)(xxix)]

(c) Covered conveyors for coal or coke conveying of less than or equal to 360 tons per day. [326 IAC 6-3-2]

(d) Coal bunker and coal scale exhausts and associated dust collector vents. [326 IAC 6-3-2]

(e) Activities with emissions equal to or less than 5 tons per year PM or PM10: one (1) chip bin and one (1) coal bin. [326 IAC 6-3-2]

(f) Vents from ash transport systems not operated at positive pressure. [326 IAC 6-3-2]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) Twenty-six (26) surface coating operations consisting of the following:

(1) Eighteen (18) spray booths, constructed in 1986, with water pans for particulate control, identified as:

(A) #1 through #14, exhausting to stack vents 1A-D, 2A&B, 3A&B, 4A&B, 5A-C, 6A-C, 7A&B, 8A-C, 9A&B, 10A-C, 11A&B, 12A&B, 13A&B, and 14A&B;

(B) #15, exhausting to stack vents 15A-D; and

(C) #16 through #18, exhausting to stack vents 16A&B through 18A&B.

(2) One (1) down draft filter spray booth, identified as SB19, constructed in 1997, using HVLP spray guns and a down draft flash tunnel, equipped with dry filters and exhausting to stack SB19A.

(3) One (1) down draft booth, identified as SB20, constructed in 1998, using HVLP spray guns, emissions controlled by a water pan, exhausting to stack vents 20A&B.

(4) One (1) touch up/repair/special project spray booth, identified as SB21, constructed in 1999, using HVLP spray guns, equipped with dry filters and exhausting to two stacks, SB21A and SB21B.

(5) One (1) Flat Line Finishing Process, constructed in 2003, having a maximum throughput capacity of 2.2 bookcases per hour, and consisting of the following surface coating booths:

(A) One (1) enclosed flat line automatic surface coating unit (identified as SB22) with emissions of particulate matter are controlled using dry filters, which exhaust to stack 22.

(B) Two (2) spray booths (identified as SB23 and SB24) with emissions of particulate matter controlled using dry filters. Spray booth SB23 exhausts at stacks 23A and 23B, while spray booth SB24 exhausts at stacks 24A and 24B.

(C) Two (2) down draft spray booths (identified as SB25 and SB26) with emissions of particulate matter are controlled using dry filters. Spray booth SB25 and SB26 exhaust at stacks 25 and 26, respectively.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to MSM 175-11617-00007, issued on February 14, 2000, the surface coating operations shall use less than 247.7 tons of VOC (250 tpy less the maximum VOC emissions from the boilers), including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period.

This usage limit is required to limit the total source potential to emit of VOC to less than 250 tons per twelve (12) consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.2 General Provisions Relating to HAPs [326 IAC 20-14][40 CFR 63, Subpart A]

The provisions of 40 CFR 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-14, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart JJ.

D.1.3 Wood Furniture Manufacturing Operations NESHAP [40 CFR 63, Subpart JJ] [326 IAC 20-14-1]

(a) The wood furniture manufacturing operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart JJ, incorporated by reference as 326 IAC 20-14-1, with a compliance date of November 21, 1997.

(b) Pursuant to 40 CFR 63, Subpart JJ, the wood furniture coating operations shall comply with the following conditions:

(1) Limit the Volatile Hazardous Air Pollutants (VHAP) emissions from finishing operations as follows:

(A) Achieve a weighted average volatile hazardous air pollutant (VHAP) content across all coatings of one (1.0) pound VHAP per pound solids, as applied; or

(B) Use compliant finishing materials in which all stains, washcoats, sealers, topcoats, basecoats and enamels have a maximum VHAP content of one (1.0) pound VHAP per pound solid, as applied. Thinners used for on-site formulation of washcoats, basecoats, and enamels have a three percent (3.0%) maximum VHAP content by weight. All other thinners have a ten percent (10.0%) maximum VHAP content by weight; or

(C) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids; or

(D) Use any combination of (A), (B), and (C).

(2) Limit VHAP emissions from contact adhesives as follows:

(A) For foam adhesives used in products that meet the upholstered seating flammability requirements, the VHAP content shall not exceed 1.8 pound VHAP per pound solids;

(B) For all other contact adhesives (except aerosols and contact adhesives applied to nonporous substrates) the VHAP content shall not exceed one (1.0) pound VHAP per pound solids;

(C) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids.

(3) The strippable spray booth material shall have a maximum VOC content of eight-tenths (0.8) pounds VOC per pound solids, as applied.

D.1.4 Work Practice Standards for Wood Furniture Manufacturing Operations [40 CFR 63, Subpart JJ]

The owner or operator of an affected source subject to this subpart shall maintain a written work practice implementation plan, as required by 40 CFR 63.803(a). The work practice implementation plan must define environmentally desirable work practices for each wood furniture manufacturing operation and at a minimum address each of the following work practice standards as defined under 40 CFR 63.803:

(a) Operator training course.

(b) Leak inspection and maintenance plan.

(c) Cleaning and washoff solvent accounting system.

(d) Chemical composition of cleaning and washoff solvents.

(e) Spray booth cleaning.

(f) Storage requirements.

(g) Conventional air spray guns shall only be used under the circumstances defined under 40 CFR 63.803(h).

(h) Line cleaning.

(i) Gun cleaning.

(j) Washoff operations.

(k) Formulation assessment plan for finishing operations.

D.1.5 Volatile Organic Compounds (VOC): Best Available Control Technology (BACT) [326 IAC 8-1-6]

IDEM has determined that compliance with 326 IAC 8-2-12 will serve as BACT for the spray booths (booths #1 through #18) at this source. Therefore, booths #1 through #18 will utilize 326 IAC 8-2-12 compliant methods of application. Compliance with 326 IAC 8-2-12 will satisfy the requirements of 326 IAC 8-1-6.

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture, cabinets, and bookcases from spray booths #1 through #18, SB19, SB20, SB21, SB22, SB23, SB24, SB25, and SB26 shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between

one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.7 Particulate [40 CFR 62, Subpart P]

Pursuant to MSM 175-11390-00007, issued November 11, 1999, and CP 175-9419-00007, issued on March 24, 1998 and 40 CFR 52, Subpart P, the particulate emissions from each of the spray booths shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.1.9 VOC Limitations [326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC limitations contained in Conditions D.1.1 and D.1.3 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer.

D.1.10 Particulate [326 IAC 6-3-2(d)]

Pursuant to CP 175-8773-00007, issued March 28, 1997, CP 175-9419-00007, issued on March 24, 1998, MSM 175-11390-00007, issued November 11, 1999, 326 IAC 6-3-2(d), and in order to comply with Condition D.1.7, the particulate control shall be in operation in accordance with manufacturers specifications and control emissions from the paint booths at all times the paint booths are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.11 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the spray booth stacks (SB-19A, SB21A, SB21B, 22, 23A, 23B, 24A, 24B, 25 and 26) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

(b) Daily inspections shall be performed to verify that the water level of the water pans meet the manufacturer's recommended level. To monitor the performance of the water pans, the water level of the pans shall be maintained weekly at a level where surface agitation indicates impact of the air flow. Water shall be kept free of solids and floating material that reduces the capture efficiency of the water pan. To monitor the performance of the baffles, weekly inspections of the baffle panels shall be conducted to verify placement and configuration meet recommendations of the manufacturer. In addition, weekly observations shall be made of the overspray from the surface coating booth stacks 1A-D, 2A&B, 3A&B, 4A&B, 5A-C, 6A-C, 7A&B, 8A-C, 9A&B, 10A-C, 11A&B, 12A&B, 13A&B, 14A&B, 15A-D, 16A&B, 17A&B, 18A&B, and SB20A&B, while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take

response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

(c) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

(d) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.12 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(2) The volume weighted VOC content of the coatings used for each month;

(3) The total VOC usage for each month; and

(4) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be complete and sufficient to establish compliance with the VHAP usage limits established in Condition D.1.3.

(1) Certified Product Data Sheet for each finishing material, thinner, contact adhesive and strippable booth coating.

(2) The VHAP content in pounds of VHAP per pounds of solids, as applied, for all finishing materials and contact adhesives used.

(3) The VOC content in pounds of VOC per pounds of solids, as applied, for each strippable spray booth coating used.

(4) The VHAP content in weight percent of each thinner used.

(5) When the averaging compliance method is used, copies of the averaging calculations for each month as well as the data on the quantity of coating and thinners used to calculate the average.

(c) To document compliance with Condition D.1.4, the Permittee shall maintain records demonstrating actions have been taken to fulfill the Work Practice Implementation Plan.

(d) To document compliance with Condition D.1.11, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.13 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the responsible official as defined by 326 IAC 2-7-1(34).

(b) A semi-annual Continuous Compliance Report to document compliance with Condition D.1.3 and the Certification form, shall be submitted to the addresses listed in section C-General Reporting Requirements- of this permit, within thirty (30) days after the end of the six (6) months being reported.

The six (6) month periods shall cover the following months:

(1) January 1 through June 30.

(2) July 1 through December 31.

(c) The report required by (b) of this condition shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Minor Source Modification and Part 70 Minor Permit Modification

Source Background and Description

Source Name:	Kimball Office Casegoods Manufacturing - Salem
Source Location:	Hwy. 56 East, Salem, Indiana 47617
County:	Washington
SIC Code:	2521
Operation Permit No.:	T175-6062-00007
Operation Permit Issuance Date:	June 18, 2002
Minor Source Modification No.:	175-16272-00007
Minor Permit Modification No.:	175-16767-00007
Permit Reviewer:	ERG/AAB

The Office of Air Quality (OAQ) has reviewed a modification application from Kimball Office Casegoods Manufacturing - Salem relating to the construction of the following emission units and pollution control devices:

(5) One (1) Flat Line Finishing Process, constructed in 2003, having a maximum throughput capacity of 2.2 bookcases per hour, and consisting of the following surface coating booths:

(A) One (1) enclosed flat line automatic surface coating unit (identified as SB22) with emissions of particulate matter are controlled using dry filters, which exhaust to stack 22.

(B) Two (2) spray booths (identified as SB23 and SB24) with emissions of particulate matter controlled using dry filters. Spray booth SB23 exhausts at stacks 23A and 23B, while spray booth SB24 exhausts at stacks 24A and 24B.

(C) Two (2) down draft spray booths (identified as SB25 and SB26) with emissions of particulate matter are controlled using dry filters. Spray booth SB25 and SB26 exhaust at stacks 25 and 26, respectively.

Insignificant Activities:

(a) Four (4) electric ovens identified as units 5, 7, 8, and 9.

(b) One (1) natural gas-fired water heater, having a maximum heat input capacity of 2.4 MMBtu per hour.

(c) One (1) natural gas-fired air make-up unit, having a maximum heat input capacities of 2 MMBtu per hour.

(d) Two (2) natural gas-fired air make-up units, each having a maximum heat input capacity of 1 MMBtu per hour.

Note: These insignificant activities do not have applicable requirements and will not be listed in the Part 70 permit.

History

On October 28, 2002 Kimball Office Casegoods Manufacturing (Kimball) submitted an application to the OAQ requesting to add an additional surface coating line to their existing plant. Kimball was issued a Part 70 permit on June 18, 2002.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
22	Flat Line SB22	33	24	2,768	75
23A	Spray Booth SB23	31	34	3,600	75
23B	Spray Booth SB23	31	34	3,600	75
24A	Spray Booth SB24	31	34	3,600	75
24B	Spray Booth SB24	31	34	3,600	75
25	Spray Booth SB25	31	20	1,998	75
26	Spray Booth SB26	41	20	1,998	75

Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification and Minor Permit Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 28, 2002. Additional information was received on November 14, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 2).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls and waste disposal. Control equipment and solvent recovery is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	8.21
PM-10	8.21
SO_2	-
VOC	63.6
CO	-
NO_x	-

HAP's	Potential To Emit (tons/year)
Styrene	1.58
Acolein	0.0006
Cobalt Compounds	0.02
Acetaldehyde	0.0006
Methyl Ethyl Ketone	6.18
Other HAPs	0.63
TOTAL	8.42

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(9), which states a modification that has a potential to emit greater than the thresholds under 326 IAC 2-7-10.5(d)(4) may be processed as a minor source modification if:

(a) The new emission units are of the same type as units already existing at the source;

(b) the new units will comply with same applicable requirements and permit terms and conditions as the existing emission units; and

(c) the modification does not trigger 326 IAC 2-2.

The new surface coating booth proposed in this modification are of the same type as surface coating booths already existing at the source. The new booths will be used for applying surface coatings to wood furniture and will be subject to the same applicable requirements currently included in the source's Part 70 permit for the existing surface coating booths. The modification will not trigger 326 IAC 2-2 because the source will continue to comply with the existing VOC emission limit of 249 tons per year.

The permit modification is being performed through a Minor Permit Modification pursuant to 326 IAC 2-7-12(b) because it does not involve significant changes to existing monitoring, reporting, or record keeping requirements in the Part 70 permit.

County Attainment Status

The source is located in Washington County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_x	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Washington County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Washington County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	100.2
PM-10	70.4
SO_2	149.9
VOC	<250
CO	<250
NOx	30.1

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more, and it is not one (1) of the twenty-eight (28) listed source categories.

(b) These emissions are based on the limited potential to emit provided in the Technical Support Document for the Title V Permit (T175-6062-00007), issued June 18, 2002.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	PM	PM-10	SO_2	VOC	CO	NO_X	HAP
Spray booths 1-14, 15, 16-18, SB19A, SB20, SB21 FL1, FL2, FL3	<22.0	<22.0	0	247.7	0	0	251.7
Flat Line Finishing Process	8.21	8.21	0		0	0	8.42

	PM	PM-10	SO_2	VOC	CO	NO_X	HAP
Boilers 1 and 2	64.1	34.3	149.9	2.2	141.7	30.1	0
Woodworking	14.1	14.1	0	0	0	0	0
TOTAL	108.4	78.6	149.9	<250	<250	30.1	260.1
PSD Thresholds	250	250	250	250	250	250	--

(a) This modification to an existing minor stationary source is not major because the emissions increase is limited to less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

(b) The VOC emissions from the entire source remain limited to 247.7 tons/year; therefore, the PSD requirements do not apply.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) The new flat line finishing process is subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20-14, (40 CFR 60 Subpart JJ). Pursuant to 40 CFR 63.800, Subpart JJ, the wood furniture coating operations shall comply with the following conditions:

(1) Limit the Volatile Hazardous Air Pollutants (VHAP) emissions from finishing operations as follows:

(A) Achieve a weighted average volatile hazardous air pollutant (VHAP) content across all coatings of one (1.0) pound VHAP per pound solids, as applied; or

(B) Use compliant finishing materials in which all stains, washcoats, sealers, topcoats, basecoats and enamels have a maximum VHAP content of one (1.0) pound VHAP per pound solid, as applied. Thinners used for on-site formulation of washcoats, basecoats, and enamels have a three percent (3.0%) maximum VHAP content by weight. All other thinners have a ten percent (10.0%) maximum VHAP content by weight; or

(C) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids; or

(D) Use any combination of (A), (B), and (C).

(2) Limit VHAP emissions from contact adhesives as follows:

(A) Use compliant contact adhesives as follows:

(I) For foam adhesives used in products that meet the upholstered seating flammability requirements, the VHAP content shall not exceed 1.8 pound VHAP per pound solids;

(ii) For all other contact adhesives (except aerosols and contact adhesives applied to nonporous substrates) the VHAP content shall not exceed one (1.0) pound VHAP per pound solids;

(B) Use a control device to limit emissions to one (1.0) for existing pound VHAP per pound solids.

(3) Pursuant to 40 CFR 63.803, the owner or operator of an affected source subject to this Subpart shall maintain a written work practice implementation plan. The work practice implementation plan must define environmentally desirable work practices for each wood furniture manufacturing operation and at a minimum address each of the following work practice standards as defined under 40 CFR 63.803:

(A) Operator training course.

(B) Leak inspection and maintenance plan.

(C) Cleaning and washoff solvent accounting system.

(D) Chemical composition of cleaning and washoff solvents.

(E) Spray booth cleaning.

(F) Storage requirements.

(G) Conventional air spray guns shall only be used under the circumstances defined under 40 CFR 63.803(h).

(H) Line cleaning.

(I) Gun cleaning.

(J) Washoff operations.

(K) Formulation assessment plan for finishing operations.

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart JJ.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not in one of the twenty-eight source categories. The source's current Part 70 permit (T175-6062-00007, issued June 18, 2002) includes conditions that limit the VOC and CO emissions from the entire source to less than 250 tons per year. These limits enable the source to be considered a minor source under 326 IAC 2-2 (PSD). After this modification, the source will remain a minor source under PSD by continuing to comply with the VOC usage limitation of 247.7 tons per twelve (12) consecutive month period.

326 IAC 2-4.1-1 (New Source Toxics Control)

The Flat Line Finishing Process is not subject to the requirements of 326 IAC 2-4.1-1 because the facility is subject to 40 CFR 63, Subpart JJ (National Emission Standards for Wood Furniture Manufacturing Operations).

326 IAC 8-2-12 (Volatile Organic Compounds)

The spray paint booths that comprise the Flat Line Finishing Process (spray booths SB22, SB23, SB24, SB25, and SB26) are subject to the requirements of 326 IAC 8-2-12 because the facility will be constructed after July 1, 1990 and each spray booth has actual emissions of VOC that are greater than 15 pounds per day.

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coatings applied to wood furniture and cabinets in spray booths SB22, SB23, SB24, SB25 and SB26 shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

326 IAC 6-3-2 (Particulate Emission Limitation)

On June 12, 2002, revisions to the 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirements from the previous version of 326 IAC 6-3 (Process Operations), which has been approved into the SIP will remain applicable requirements until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

Pursuant to 40 CFR 52 Subpart P, the PM from the paint booths shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Under the rule revision, particulate from the surface coating operations shall be controlled by dry particulate filter or an equivalent control device, and the Permittee shall operate the control device in accordance with the manufacturer's specifications.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not

grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance monitoring requirements applicable to this modification are as follows:

The surface coating facilities have applicable compliance monitoring conditions as specified below:

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks 22, 23A, 23B, 24A, 24B, 25, and 26 while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the dry filters must operate properly to ensure compliance with 326 IAC 6-3-2 (Process Operations) and 326 IAC 2-7 (Part 70).

Proposed Changes

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(5) One (1) Flat Line Finishing Process, constructed in 2003, having a maximum throughput capacity of 2.2 bookcases per hour, and consisting of the following surface coating booths:

(A) One (1) enclosed flat line automatic surface coating unit (identified as SB22) with emissions of particulate matter are controlled using dry filters, which exhaust to stack 22.

(B) Two (2) spray booths (identified as SB23 and SB24) with emissions of particulate matter controlled using dry filters. Spray booth SB23 exhausts at stacks 23A and 23B, while spray booth SB24 exhausts at stacks 24A and 24B.

(C) Two (2) down draft spray booths (identified as SB25 and SB26) with emissions of particulate matter are controlled using dry filters. Spray booth SB25 and SB26 exhaust at stacks 25 and 26, respectively.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(a) Twenty-**six (26)**~~one (21)~~ surface coating operations consisting of the following:

(1) Eighteen (18) spray booths, constructed in 1986, with water pans for particulate control, identified as:

(A) #1 through #14, exhausting to stack vents 1A-D, 2A&B, 3A&B, 4A&B, 5A-C, 6A-C, 7A&B, 8A-C, 9A&B, 10A-C, 11A&B, 12A&B, 13A&B, and 14A&B;

(B) #15, exhausting to stack vents 15A-D; and

(C) #16 through #18, exhausting to stack vents 16A&B through 18A&B.

(2) One (1) down draft filter spray booth, identified as SB19, constructed in 1997, using HVLP spray guns and a down draft flash tunnel, equipped with dry filters and exhausting to stack SB19A.

(3) One (1) down draft booth, identified as SB20, constructed in 1998, using HVLP spray guns, emissions controlled by a water pan, exhausting to stack vents 20A&B.

(4) One (1) touch up/repair/special project spray booth, identified as SB21, constructed in 1999, using HVLP spray guns, equipped with dry filters and exhausting to two stacks, SB21A and SB21B.

(5) One (1) Flat Line Finishing Process, constructed in 2003, having a maximum throughput capacity of 2.2 bookcases per hour, and consisting of the following surface coating booths:

(A) One (1) enclosed flat line automatic surface coating unit (identified as SB22) with emissions of particulate matter are controlled using dry filters, which exhaust to stack 22.

(B) Two (2) spray booths (identified as SB23 and SB24) with emissions of particulate matter controlled using dry filters. Spray booth SB23 exhausts at stacks 23A and 23B, while spray booth SB24 exhausts at stacks 24A and 24B.

(C) Two (2) down draft spray booths (identified as SB25 and SB26) with emissions of particulate matter are controlled using dry filters. Spray booth SB25 and SB26 exhaust at stacks 25 and 26, respectively.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture**,** ~~and~~ cabinets**, and bookcases** from spray booths #1 through #18, SB19, SB20, ~~and~~ SB21**, SB22, SB23, SB24, SB25, and SB26** shall utilize one of the following application methods:

D.1.7 Particulate ~~Matter (PM) [326 IAC 6-3-2]~~ **[40 CFR 62, Subpart P]**

Pursuant to MSM 175-11390-00007, issued November 11, 1999, and CP 175-9419-00007, issued on March 24, 1998 and **40 CFR 52, Subpart P** ~~326 IAC 6-3-2 (Process Operations)~~, the particulate~~ matter (PM) overspray~~ **emissions** from each of the spray booths shall be limited by the following:

D.1.10 Particulate ~~Matter (PM)~~ **[326 IAC 6-3-2(d)]**

Pursuant to CP 175-8773-00007, issued March 28, 1997, CP 175-9419-00007, issued on March 24, 1998, MSM 175-11390-00007, issued November 11, 1999, **326 IAC 6-3-2(d),** and in order to comply with Condition D.1.7, the **particulate control shall be in operation in accordance with manufacturers specification and** ~~dry filters and water pans for particulate matter (PM) overspray control shall be in operation and~~ control emissions from the paint booths at all times the paint booths are in operation.

D.1.11 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the spray booth stacks (SB-19A, SB21A~~, and~~ SB21B**, 22, 23A, 23B, 24A, 24B, 25 and 26**) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

D.1.13 Reporting Requirements

. . .

(c) The report required by (b) of this condition shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air **Quality**~~Management~~
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Conclusion

The operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 175-16272-00007 and Minor Permit Modification No. 175-16767-00007.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Kimball Office Casegoods Manufacturing - Salem
Address City IN Zip: Highway 56 East, Salem, Indiana 47167
MSM : 175-16272
Plt ID: 175-00007
Reviewer: ERG/AAB
Date: 25-Nov-02

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Weight % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency
437-2005	8.09	61.84%	0.0%	61.8%	0.0%	36.92%	0.35000	2.550	5.00	5.00	4.47	107.16	19.56	3.62	70%
437-2054	8.02	62.97%	0.0%	63.0%	0.0%	35.79%	0.35000	2.550	5.05	5.05	4.51	108.18	19.74	3.48	70%
803-1343	7.17	100.00%	13.4%	86.6%	0.0%	0.00%	0.31000	2.620	6.21	6.21	5.04	121.04	22.09	0.00	70%
824-9103	7.75	86.60%	78.6%	8.05%	0.0%	13.40%	0.31000	2.620	0.62	0.62	0.51	12.16	2.22	1.11	70%
State Potential Emissions			**Add worst case coating to all solvents**								**14.52**	**348.53**	**63.61**	**8.21**	

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations
HAP Emission Calculations
From Surface Coating Operations
Company Name: Kimball Office Casegoods Manufacturing - Salem
Address City IN Zip: Highway 56 East, Salem, Indiana 47167
CP#: 175-16272
Plt ID: 175-00007
Permit Reviewer: ERG/AAB
Date: 25-Nov-02

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Styrene	Weight % Acrolein	Weight % Cobalt Compounds	Weight % Acetaldehyde	Weight % Methyl Ethyl Ketone	Weight % Unknown HAPs	Styrene Emissions (ton/yr)	Acrolein Emissions (ton/yr)	Cobalt Compounds Emissions (ton/yr)	Acetaldehyde Emissions (ton/yr)	Methyl Ethyl Ketone Emissions (ton/yr)	Unknown HAPs Emissions (ton/yr)
427-2005	8.08	0.350000	2.55	1.51%	0.001%	0.032%	0.001%	9.73%	0.00%	0.48	0.0003	0.01	0.0003	3.074	0.00
437-2054	8.02	0.350000	2.55	1.51%	0.001%	0.033%	0.001%	9.91%	0.00%	0.47	0.0003	0.01	0.0003	3.108	0.00
803-1343*	7.17	0.310000	2.62	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
824-9103**	7.75	0.310000	2.62	0.00%	0.00%	0.00%	0.00%	0.00%	2.29%	0.00	0.00	0.00	0.00	0.00	0.63

* - This thinner contains no hazardous air pollutants.

** - This toner contains 2.29% HAPs by weight. Indentity of individual HAPs in this coating were not identified.

Total State Potential Emissions	**0.95**	**0.0006**	**0.02**	**0.0006**	**6.18**	**0.63**

Combined Total HAPs = 8.42

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs